October 12, 2001

Mr. Kenneth Paxson
Great Lakes Metals, LLC
4407 Railroad Avenue
East Chicago, IN 46312

Re: Registered Operation Status,
089-13740-00373

Dear Mr. Paxson:

The application from Great Lakes Metals, LLC, received on January 3, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following continuous coil electrogalvanizing source, located at 4407 Railroad Avenue, East Chicago, Indiana, is classified as registered:

(a) Two (2) natural gas fired boilers, identified as SS-2 and SS-3, constructed after June 9, 1989, equipped with low NO_X burners, capacity: 21.0 million British thermal units per hour, each.

(b) One (1) electrogalvanizing line, consisting of pre-cleaning, cleaning, and phosphate processes, as well as zinc plating operations, capacity: 163.2 tons of galvanized steel per hour.

(c) Two (2) natural gas fired space heaters, identified as #1 West and #2 East, capacity: 8.80 million British thermal units per hour, each.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

   (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

2. Any change or modification which may increase the potential to emit a combination of HAPs, VOC, NO_X, SO_2, PM or PM_{10} to twenty five (25) tons per year, CO to one hundred (100) tons per year, or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.

3. Pursuant to 326 IAC 2-6 (Emission Reporting), the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

4. Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the electrogalvanizing line shall not exceed 0.76 pounds per hour, when operating at a process weight rate of 163.2 pounds per hour. This limitation was determined by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$

   where E = rate of emission in pounds per hour and
   P = process weight rate in tons per hour

5. Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM from each of the two (2) boilers shall be limited to 0.412 pounds per million British thermal unit of heat input. The emission limitations are based on the following equation is given in 326 IAC 6-2-4:

   $$Pt = 1.09/Q^{0.26}$$

   where:

   Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

   Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

6. Operating on fuels other than natural gas may cause the requirements of 40 CFR 60.42c, 40 CFR 60.43c, 40 CFR 60.44c, 40 CFR 60.45c, 40 CFR 60.46c and 40 CFR 60.47c to be applicable to the two (2) boilers, identified as SS-2 and SS-3, and shall require prior IDEM, OAQ, approval.

7. Pursuant to the New Source Performance Standards (NSPS), Part 60.48c, Subpart Dc, this source is required to keep records of the amount of each fuel combusted each month. Records shall be maintained by the owner or operator of the boilers for a period of two (2) years following the date of such record. The application and enforcement of these standards have been delegated to the IDEM OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

8. To document compliance with Condition 7, the natural gas fired boiler certification, shall be submitted semi-annually, using the form located at the end of this letter, or its equivalent, within thirty (30) days after the end of the six (6) month period being reported. The certification shall be sent to:

   Indiana Department of Environmental Management
   Compliance Branch, Office of Air Quality
   100 North Senate Avenue, P. O. Box 6015
   Indianapolis, IN 46206-6015

This registration is a renewed registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Branch
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

CAP/MES

cc: File - Lake County
Lake County Health Department
Air Compliance - Ramesh Tejuja
Northwest Regional Office
Permit Tracking - Cynthia Bymaster
Air Programs Section- Michele Boner
Compliance Branch - Karen Nowak

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH

SEMI-ANNUAL NATURAL GAS-FIRED BOILER CERTIFICATION

Source Name: Great Lakes Metals, LLC
Source Address: 4407 Railroad Avenue, East Chicago, Indiana 46312
Mailing Address: 4407 Railroad Avenue, East Chicago, Indiana 46312
Permit No.: R 089-13740-00373

9	Natural Gas Only
9	Alternate Fuel burned
	From: _____ To: _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	**Great Lakes Metals, LLC**
Address:	**4407 Railroad Avenue**
City:	**East Chicago**
Authorized individual:	**Kenneth Paxson**
Phone #:	**(219) 397-0700**
Registration #:	**R 089-13740-00373**

I hereby certify that Great Lakes Metals, LLC is still in operation and is in compliance with the requirements of Registration 089-13740-00373.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**Great Lakes Metals, LLC**
Source Location:	**4407 Railroad Avenue, East Chicago, Indiana 46312**
County:	**Lake**
SIC Code:	**3313**
Operation Permit No.:	**R 089-13740-00373**
Permit Reviewer:	**CarrieAnn Paukowits**

The Office of Air Quality (OAQ) has reviewed an application from Great Lakes Metals, LLC relating to the operation of a continuous coil electrogalvanizing source. Great Lakes Metals, LLC, then Metro Metals Corporation, was issued a Registration on December 17, 1996. This is a renewal of that Registration.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Two (2) natural gas fired boilers, identified as SS-2 and SS-3, constructed after June 9, 1989, equipped with low NO_X burners, capacity: 21.0 million British thermal units per hour, each.

(b) One (1) electrogalvanizing line, consisting of pre-cleaning, cleaning, and phosphate processes, as well as zinc plating operations, capacity: 163.2 tons of galvanized steel per hour.

(c) Two (2) natural gas fired space heaters, identified as #1 West and #2 East, capacity: 8.80 million British thermal units per hour, each.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment

There are no new facilities/units requiring approval during this review.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Registration 089-6854-00373, issued on December 17, 1996; and

(b) Notice-only Change 089-10886-00373, issued on July 23, 1999.

All conditions from previous approvals were incorporated into this permit except the following:

Registration 089-6854-00373, issued on December 17, 1996

Requirement stating the following: Pursuant to 326 IAC 6-2-4, the particulate matter (PM) emissions from the two (2) 21 million British thermal unit per hour boilers shall be limited to 2.88 pounds per million British thermal unit heat input.

Reason not incorporated: The calculation resulting in that limit was incorrect and would require a heat input of only 0.024 million British thermal units per hour. The two (2) boilers have a maximum heat input capacity of 21.0 million British thermal units per hour, each. Therefore, the limit from Registration 089-6854-00373, issued on December 17, 1996, is replaced with the correct limit, as calculated in the State Rule Applicability Section of this document.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on January 3, 2001.

Emission Calculations

See pages 1 through 4 of 4 of Appendix A of this document for detailed emissions calculations. During the initial Registration review, as stated in the TSD to 089-6854-00373, issued on December 17, 1996, the potential emission calculations from pre-cleaning, cleaning, and phosphate processes from the applicant were reviewed and verified as negligible. Since there has been no change in operations since 1996, the potential to emit from those processes are still considered negligible. The emissions from zinc plating are also negligible. For the purpose of this review, the potentials to emit PM and PM_{10} from the electrogalvanizing line are considered equal to the allowable PM emission rate pursuant to 326 IAC 6-3-2, Process Operations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	3.82
PM_{10}	5.32
SO_2	0.156
VOC	1.43
CO	22.0
NO_X	16.9

HAPs	Potential To Emit (tons/year)
Benzene	0.0004
Dichlorobenzene	0.0003
Formaldehyde	0.020
Hexane	0.470
Toluene	0.0009
Lead	0.0001
Cadmium	0.0003
Chromium	0.0004
Manganese	0.0001
Nickel	0.0006
Phosphorus	negligible
TOTAL	0.492

The potential to emit (as defined in 326 IAC 2-5.1-2) of NO_X is less than twenty-five (25) tons per year and greater than ten (10) tons per year, and the potential to emit PM_{10} is less than twenty-five (25) tons per year and greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5-1.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
Two (2) boilers (SS-2 and SS-3)	0.350	1.40	0.110	1.01	15.5	9.20	0.347
One (1) electro galvanizing line	3.33	3.33	-	negligible	-	-	negligible
Two (2) space heaters (#1 West and #2 East)	0.146	0.586	0.046	0.424	6.48	7.71	0.145
Total Emissions	3.82	5.32	0.156	1.43	22.0	16.9	0.492

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM_{10}	moderate nonattainment
SO_2	nonattainment
NO_2	attainment
Ozone	severe nonattainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as non-attainment for ozone. Therefore, VOC and NO_X emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(b) This portion of Lake County has been classified as nonattainment for SO_2 and PM_{10}. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(c) This portion of Lake County is designated as attainment or unclassifiable for CO, Lead and NO_2. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

(d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR Part 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	3.82
PM_{10}	5.32
SO_2	0.156
VOC	1.43
CO	22.0
NO_X	16.9

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of two hundred-fifty (250) tons per year or more, and it is not in one of the 28 listed source categories.

(b) This existing source is **not** a major stationary source because no nonattainment regulated pollutant is emitted at a rate of one hundred (100) tons per year, and it is not in one of the 28 listed source categories.

(c) This existing source is **not** a major stationary source because VOC is not emitted at a rate of twenty-five (25) tons per year, and it is not in one of the 28 listed source categories.

(d) These emissions were based on the potential to emit of the entire source.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than one hundred (100) tons per year,

(b) VOC is less than twenty-five (25) tons per year in Lake County,

(c) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and

(d) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

(a) The two (2) boilers, identified as SS-2 and SS-3, are subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.40c, Subpart Dc), because the boilers were

constructed after June 9, 1989, and have a maximum heat input capacity less than 100 million British thermal units per hour and greater than 10 million British thermal units per hour. The two (2) boilers operate on natural gas only. Therefore, there are no standards for sulfur dioxide under 40 CFR 60.42c or particulate matter under 40 CFR 60.43c. This source is required to comply with the record keeping and reporting requirements of 40 CFR 60.48c for the two (2) boilers, which includes records of the amount of each fuel combusted each month.

(b) There are still no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this source.

This source is not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR 63, Subpart N, and 326 IAC 20-1-1), because there are no chromium electroplating operations at this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of NO_X in Lake County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-1 (Nonattainment Area Particulate Limitations)

This source is located in Lake County, which is listed in 326 IAC 6-1-7, but the source is not specifically listed in 326 IAC 6-1-10.1. This source does not have a potential to emit more than 100 tons per year of PM, nor does it have actual PM emissions of ten (10) tons per year. Therefore, the requirements of 326 IAC 6-1-2 are not applicable, and there are no requirements in 326 IAC 6-1 applicable to this source.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, Process Operations, and Registration 089-6854-00373, issued on December 17, 1996, the particulate matter (PM) from the one (1) electrogalvanizing line shall not exceed 0.76 pounds per hour, when operating at a process weight rate of 163.2 pounds per hour. This limitation was determined by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The two (2) boilers, identified as SS-2 and SS-3, received permits to construct after September 21, 1983. Therefore, the two (2) boilers are subject to the requirements of 326 IAC 6-2-4. The PM from each of the two (2) boilers shall be limited to 0.412 pounds per million British thermal unit of heat input. The emission limitations are based on the following equation is given in 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The heat input capacities of the two (2) boilers are 21.0 million British thermal units per hour, each.

$Pt = 1.09/(42.0)^{0.26} = 0.412$ lb/MMBtu heat input

Based on Appendix A, the total potential PM emission rate is:

0.350 ton/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.080 lb/hr
(0.080 lb/hr / 42.0 MMBtu/hr) = 0.002 lb PM per MMBtu

Therefore, the two (2) boilers will comply with this rule.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The potential to emit SO_2 from this source is less than twenty-five (25) tons per year and ten (10) pounds per hour. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.

Conclusion

The operation of this continuous coil electrogalvanizing source shall be subject to the conditions of the attached proposed Registration 089-13740-00373.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Two (2) Direct Fired Gas Space Heaters

Company Name: Great Lakes Metals, LLC
Address City IN Zip: 4407 Railroad Avenue, East Chicago, Indiana 46312
Registration: 089-13740
Plt ID: 089-00373
Reviewer: CarrieAnn Paukowits
Date: January 3, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
17.6	154.18

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.146	0.586	0.046	7.71	0.424	6.48

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Two (2) Direct Fired Gas Space Heaters
HAPs Emissions

Company Name: Great Lakes Metals, LLC
Address City IN Zip: 4407 Railroad Avenue, East Chicago, Indiana 46312
Registration: 089-13740
Plt ID: 089-00373
Reviewer: CarrieAnn Paukowits
Date: January 3, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.62E-04	9.25E-05	5.78E-03	1.39E-01	2.62E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	3.85E-05	8.48E-05	1.08E-04	2.93E-05	1.62E-04	0.145

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Two (2) Natural Gas Boilers with Low NOx Burners

Company Name: Great Lakes Metals, LLC
Address City IN Zip: 4407 Railroad Avenue, East Chicago, Indiana 46312
Registration: 089-13740
Plt ID: 089-00373
Reviewer: CarrieAnn Paukowits
Date: January 3, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
42.0	367.92

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	50.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.350	1.40	0.110	9.20	1.01	15.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 4 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Two (2) Natural Gas Boilers with Low NOx Burners
HAPs Emissions

Company Name: Great Lakes Metals, LLC
Address City IN Zip: 4407 Railroad Avenue, East Chicago, Indiana 46312
Registration: 089-13740
Plt ID: 089-00373
Reviewer: CarrieAnn Paukowits
Date: January 3, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.86E-04	2.21E-04	1.38E-02	3.31E-01	6.25E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	9.20E-05	2.02E-04	2.58E-04	6.99E-05	3.86E-04	0.347

Methodology is the same as page 3.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.